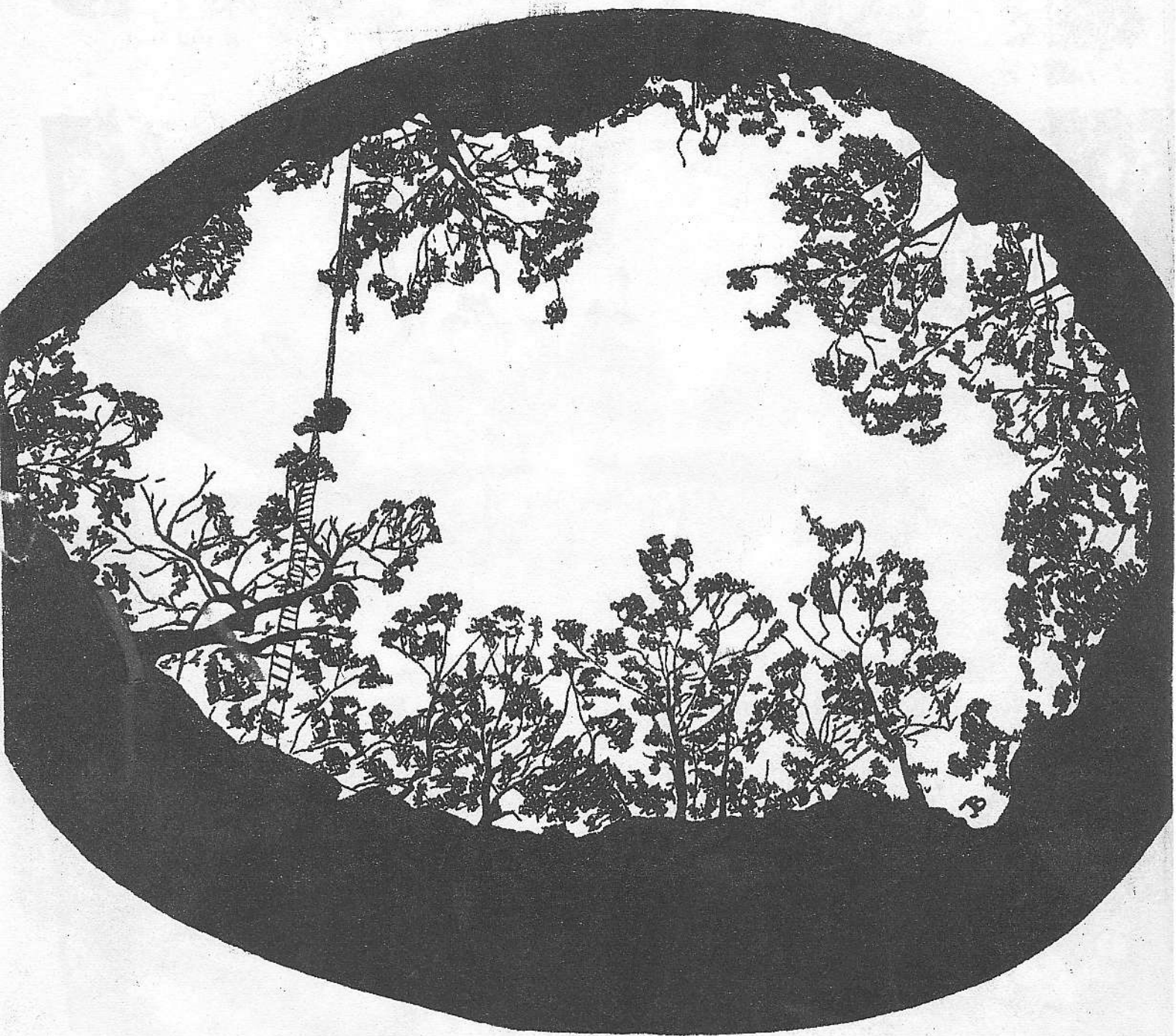


Vol 11 No 1

March 1974

# **SPELEOGRAFFITI.**



The Newsletter of the

**NATIONAL UNIVERSITY CAVING CLUB.**



MARCH 1974.

S P E L E O G R A F F I T I  
The Newsletter of the National University  
Caving Club.

VOL. 11. No. 1.

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EDITORIAL.

Well, here we are at the beginning of another year, the club's 11th. There is a new editor who is enthusiastic (?), and willing to punch out a few newsletters during the year - provided that he has support. The support he is looking for comes in many forms:

- writing articles
- leading trips (so that trip reports can be written)
- writing trip reports
- drawing maps, cartoons, covers
- typing, collating and addressing newsletters - to name but a few;

thus he is hoping all members of the club will be able to help him.

As a number of people realise, this is the first newsletter published since last July. It is hoped to put out the final issue for last year, 10 (4-6), in the near future - this will bring the newsletters up to date. But, to do this, articles, maps and outstanding trip reports are needed.

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High Cone Area - A short note on location and access.

This is a little known area of limestone near the junction of Limestone Creek and the Goodradigbee River. It outcrops in a 50 - 100m. wide strip running parallel to Limestone Creek,

No caves were found in the area, but other solution features do occur. However, perhaps more importantly, the blackberries are phenomenal (and the fishing is not too bad either).

There are two access routes:

- (a) Via a good track from the main road - passable by an ordinary car - but you need a key for the gate.
- (b) Via a very steep and little used bush track - passable by an ordinary four-wheel drive - but you need to know where to turn off.

John Brush.

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DDT in the Bent-winged Bat in Australia (cont. from page 8)

Acknowledgements

We thank the NSW Parks and Wildlife Service for permission to collect the bats and the Commonwealth Analyst, Dr F.E. Peters, for facilitating the analyses.

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## NATIONAL UNIVERSITY CAVING CLUB.

## PRESIDENT'S REPORT 1973.

In many ways 1973 was a typical year for NUCC. The club started the year quite well, but as usual died away to virtual non-existence by third term. Newsletter production, trip frequency and attendance on trips all suffered as the year wore on, contrasting with the wine and cheese evenings, which became more popular with time. One wonders if there is any significance in this.

The actual number of trips in the twelve months to the end of February was 24. These were to 9 different areas in N.S.W., Victoria and the Nullarbor plain area of South Australia and Western Australia. The most popular areas were Yarrangobilly, Wyanbene and Wee Jasper.

Perhaps the two most notable trips were the Easter trip to Buchan, and in August, the club's first ever trip to the Nullarbor. The Buchan trip is notable in that some caving was actually done, in fact in Trogdip, one of the most challenging caves in the area. Some caving was also done on the Nullarbor, though I'm sure this was not intentional, but rather the result of bad inter-pub navigation.

Projects started or continued through the year were the mapping and recording of the caves at Mt. Fairy, Taemas and Rosebrook. Several members have also been involved with the newly formed Yarrangobilly Research Group, the basic objective of which, is to encourage and facilitate systematic study of the Yarrangobilly Karst Area.

Production of Speleograffiti, the club newsletter, got off to a fine start - with 3 twenty page issues being produced in the first half of the year. However in the remainder of the year, the pace slowed somewhat, and we are still awaiting the last three issues for 1973.

The Library. Apart from numerous newsletters (including several new ones) and a steel drawer to hold index cards, there were no major additions to the library.

Following the success of the 1972 wine and cheese evening, another was organised early last year. This was followed by another one late in the year, and yet another last week, thus setting an alltime record of 3 in about 12 months.

In closing, I would like to thank the out-going committee and also other members who gave their support during the year.

John B. Brush.

President, NUCC, 1973-74.

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Statement of Income And Expenditure for 1973.

INCOME

49 membership fees @ \$1.50.....	\$73.50
Equipment hire.....	\$14.40
Supper receipts.....	\$28.82
Sale of Wyanbene maps.....	\$24.30
Refund of A.S.F. fees.....	\$67.50
	<u>\$207.72</u>

EXPENDITURE

A.S.F. affiliation fees.....	\$67.50
Supper supplies.....	\$46.04
Payment for carbide.....	\$21.00
Equipment purchases.....	\$30.95
Telephone calls.....	\$33.27
	<u>\$168.16</u>

(Total income + balance at 12.12.72) - (Total expenditure)  
(207.72 + 21.11) - (168.16) = \$60.67.

Bank balance at 19.3.74.....\$58.75

Petty cash at 19.3.74.....\$ 1.92

\$60.67

Signed : Garth Keppie  
Treasurer - 1973.



## N.U.C.C. EQUIPMENT REPORT - 1973.

Following the introduction of lead-acid lamps as club equipment last year we again added to our equipment by buying 5 more lamps and associated spares. To improve the scope of our caving we are trying to obtain the necessary specialist equipment, and as a result amongst our equipment last year we obtained a scaling pole and two pairs of Jumar prussikers.

Obtained last year:-

- 1 X 50' ladder
- 5 lead-acid lamps
- 1 Battery charger
- 11 tins of carbide
- 2pr. Jumar prussikers
- 1 X 36' scaling pole

The club at present possesses the following equipment:-

- 6 X 30' ladders
- 5 X 50' ladders
- 1 X 300' No. 4 nylon rope
- 3 X 150' " " " "
- 2 X 120' " " " "
- 1 X 120' manilla rope
- 10 lead-acid batteries and cap lamps
- 2 Battery chargers & distribution box
- 9 carbide lamps
- 2 first aid kits
- 23 bash hats
- 19 karabiners
- 2 pr. Jumar prussikers
- 1 pr. Glog prussikers
- 1 X 36' scaling pole

This equipment makes it possible for more than one large trip to run simultaneously, so we should start to have a larger number of trips with many new leaders.

This equipment is yours, please use it and care for it.

Signed :- David Hughes  
Equipment Officer.

## THE COMMITTEE PAGE ....

PRESIDENT	Marjorie Coggan...	98 Limestone Ave. Ainslie Ph. 493084 (W), 475242 (H).
VICE - PRESIDENT	Frank Bergersen...	24 Aurora Close, Mawson. Ph. 861694 (H).
SECRETARY	Patrick Mooney...	18 Duran St. Deakin. Ph. 811254 (H).
TREASURER	John Furlonger...	37 M <sup>C</sup> Master St. Scullin. Ph. 493072 (W).
EQUIPMENT OFFICER	John Brush...	149 Mugga Way, Redhill. Ph. 707206 (W).
COMMITTEE MEMBERS	John Masala...	40 Lumeah St. Narrabundah. Ph. 959442 (H).
	Aldo Penbrook...	Bruce Hall, A.N.U.
	Michael Pryjma...	Garran Hall, A.N.U.

RECORDS OFFICER (LIBRARIAN) Marjorie Coggan... as above

NEWSLETTER EDITOR John Brush... as above

PUBLICITY David Loveband... Bruce Hall, A.N.U.

Social Spectacular.

Another highly successful wine and cheese evening was on Tuesday, 19th. of this month. The usual large selection of famous cheeses was supplied and duly attended to. For the first time the club experimented with the new invention of the 'wine cask' instead of the usual flacons. These proved to be very successful and the few leftovers can now be kept for the Anzac Day B-B-Q.

It was pleasing to see so many freshers turn up and I think that there is a good chance that they will turn up to any similar events in the future.

Don't forget the B-B-que and visit to Cotter Caves, BUT more importantly, Don't forget the gear clean-up before it.



DDT in the Bent-winged Bat in Australia

J.D.Dunsmore, L.S.Hall, &amp; K.H. Kottek.

(Reproduced from Search 5 (3) : 110-111, March, 1974.)

It is apparent from the Australian Academy of Science report, 'The Use of DDT in Australia' (1972), that there is little data from which to judge the extent to which non-target species have accumulated DDT in their tissues. The described study was a small attempt to collect some of this data for one species, an insectivorous bat.

Miniopterus schreibersii is a small insectivorous bat found from northern Western Australia and Northern Territory, through coastal Queensland, New South Wales and Victoria, to south-eastern South Australia (Ride, 1971). It is the most common cave bat in eastern Australia, and large numbers have been banded (Purchase, 1969).

Information from banding M. schreibersii in south-eastern New South Wales indicates that from November onwards females congregate at Church Cave, Wee Jasper (47km WNW of Canberra), where parturition occurs in mid-December. By late March most of the bats have dispersed in a coastal direction to form colonies with adult males in caves and mines in the ranges south of Braidwood (about 66km ESE of Canberra). Dispersal routes are usually direct and female and juvenile bats are known to pass through Canberra on the way to their wintering areas.

It is unlikely that bats of this colony, at either Wee Jasper or at the wintering areas, would feed near areas where intensive crop spraying is carried out. A possible exception is from the horticultural use of insecticides in Canberra.

During a period of 18 months seven samples of varying numbers of bats were collected (totalling 116 individuals). The bats were killed within a few hours of collection and frozen until whole-body analyses for DDT and its metabolites were carried out. Additional bats were collected at the time of one sample and maintained on a diet of meal worms. These were used in an experiment to determine the amount of DDT that accumulated in the tissues of bats fed DDT until half of the group either died or showed clinical signs of toxicity.

The bats were frozen ( $-20^{\circ}\text{C}$ ) immediately after being killed and kept frozen until ready for the analysis. The entire carcass was weighed, sliced homogenised and the fat extracted with dichloromethane and acetone. Pesticides were extracted in a column packed with florisil. The pesticides were identified by thin-layer chromatography over aluminium-oxide coated plates; amounts were determined by gas liquid chromatography.

All results have been expressed as total DDs (DDT+DDD+DDE) per whole bat. The bats showed a very marked variation (apparently seasonal) in the amount of fats in their bodies. This means that the body weight of each bat largely depends on its degree of fatness. The results show that the adults have a fairly constant amount of DDs in their bodies. Calculations show that much apparent between-sample variation would be present in the results if they were expressed as DDs per unit of either body weight or fat. Jefferies (1972) made similar observations in his studies of DDs in bats in England.

The treated bats were fed about 15 $\mu\text{g}$  of DDT daily. The DDT was dissolved in corn oil and injected into the bodies of mealworms. (It was not possible to follow this protocol accurately and we believe the bats received less DDT than intended.) The control bats were fed mealworms into which unadulterated corn oil had been injected. The treated bats either died of DDT poisoning, were killed showing signs of severe toxicity, or showed no signs of poisoning and were sacrificed after 20 days of treatment. The bats that died, and those regarded as showing signs of severe toxicity, all exhibited the severe muscular tremors that are a feature of poisoning by chlorinated hydrocarbons. These groups of bats had similar amounts of DDs in their tissues and have not been separated in the results (Table 2).

The bats that received DDT had clearly accumulated quite large amounts in their tissues. The control bats in the experiment also had considerably

more DDs in their tissues than did the bats in the third survey sample, of which the experimentals were a subsample. Presumably they ingested extra DDT following their contamination with corn oil containing DDT from the fur of the treated bats. Possibly the corn oil contained a significant amount of DDT.

The five samples of adult bats (88 animals) had a mean of 15.9ug DDs in their bodies; in contrast, the two samples of juvenile bats (28 animals) showed only 8.8ug DDs per bat. Presumably this difference reflects duration of ingestion of DDT and it is interesting that the juveniles (only 2-4 months old) had already accumulated so much. We were unable to further classify the adults by age so cannot tell whether the oldest bats had the most DDs or whether an equilibrium point was reached.

*Miniopterus schreibersii* is a quite long-lived animal (in the last 5 years the Aust.-Bat-banding Scheme has found 25 examples of banded individuals living more than 10 years). Hence it is probable that the species is adapted to a low rate of adult mortality and any factor potentially capable of increasing the adult death rate is very important. Despite the much larger mean amounts of DDT and its metabolite in the treated group of bats than in the wild-sampled ones there is evidence that the bats in this area could be in some danger if their rate of ingestion of DDT increases. One of the DDT-treated bats was sacrificed when near death (the bat could not fly or crawl and showed severe continual tremors) and contained 255ug DDs. The minimum amount that can be accumulated in the tissues and tolerated is clearly less than this, and in the wild conditions may be considerably less. One of the wild bats sampled contained 56ug of DDs. This suggests that there may well be some wild bats containing something approaching a minimal lethal dose of DDs.

The only comparable study is that of Jefferies (1972) who examined DDT residues in a variety of insectivorous bats in England. The only data for whole-body residues in that paper is a series of 7 bats (of 4 species) which contained an average of 18.6ug DDs. This appears similar to our findings but Jefferies' bats were all of much smaller species so the data are not strictly comparable but suggest the Aust. bats are ingesting less DDT than those in England. Jefferies (1972) also conducted some DDT feeding experiments quite similar to ours. Some of his bats died containing less than 150ug of DDs, but again, they were much smaller species of bats so that our results are in good agreement.

The most comprehensive study of organochlorine insecticides could be a major factor in the reported decline in the bat population of Europe. The evidence from our study does not suggest that the particular bat population studied is at present endangered but we believe levels of DDs are sufficiently high to cause concern. It should also be remembered that this bat population is not in an area where organoinsecticides are used intensively.

TABLE 1

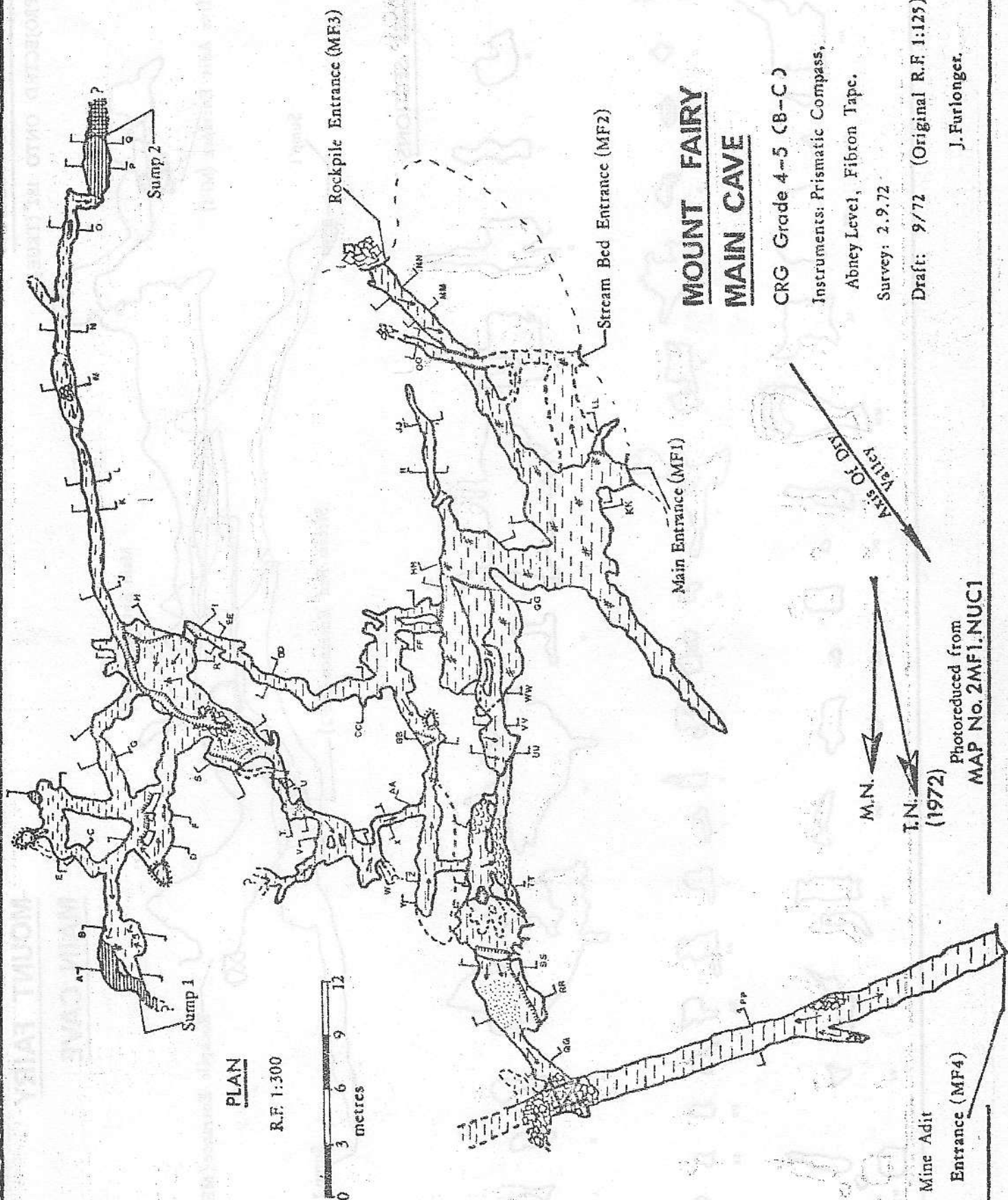
Date	Site	n	Main Class	Mean Body Weight	Mean % Fat	Total DDs (ug)
1971-04-04	Wee Jasper	15	Adult	12.8±0.6	5.6 ±1.5	14.5±3.2
1971-05-17	Major's Ck	15	A	14.7±0.9	12.1±3.2	13.5±7.0
	Cleatmore &					
1971-09-10	Marble Arch	20	A	11.1±0.7	3.4±2.0	15.7±9.3
1972-02-11	Wee Jasper	11	J	11.1±1.1	2.0±0.6	6.2±3.2
1972-03-24	Wee Jasper	17	J	12.9±0.8	5.9±2.8	10.5±4.2
1972-06-23	Marble Arch	15	A	19.1±1.4	28.3±2.8	15.2±3.4
1972-07-18	Cleatmore	23	A	15.6±1.4	22.4±5.0	19.0±13.3

TABLE 2

	n	Mean Body Weight	Mean % Fat	Total DDs (ug)
Treated Group	8	13.5±2.0	8.4±3.4	680±262
Control Group	9	13.9±1.2	9.4±3.8	40.2±16.6

REFERENCES: See page 2, this issue.

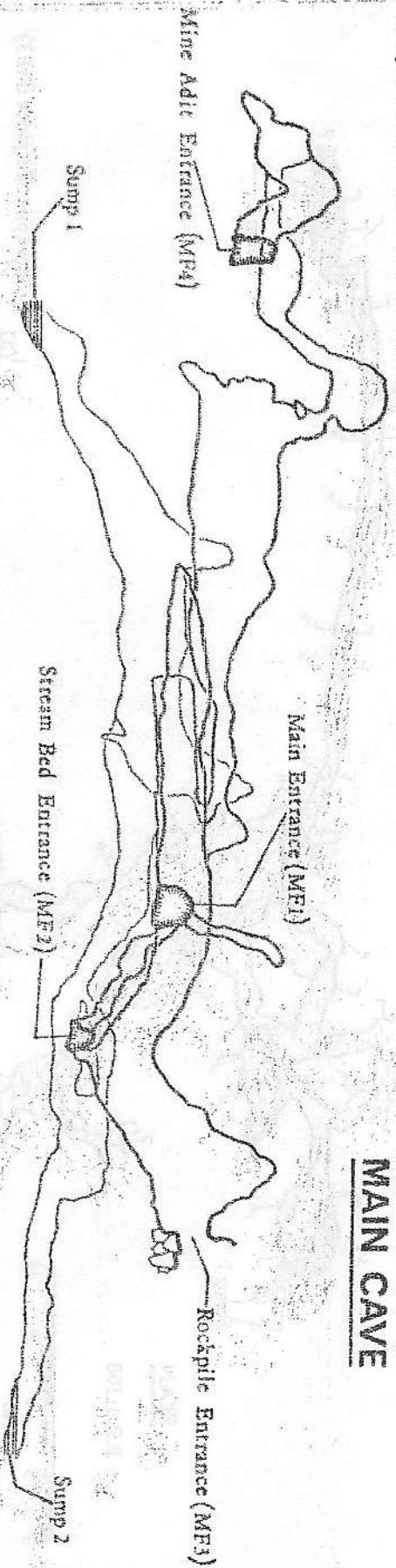




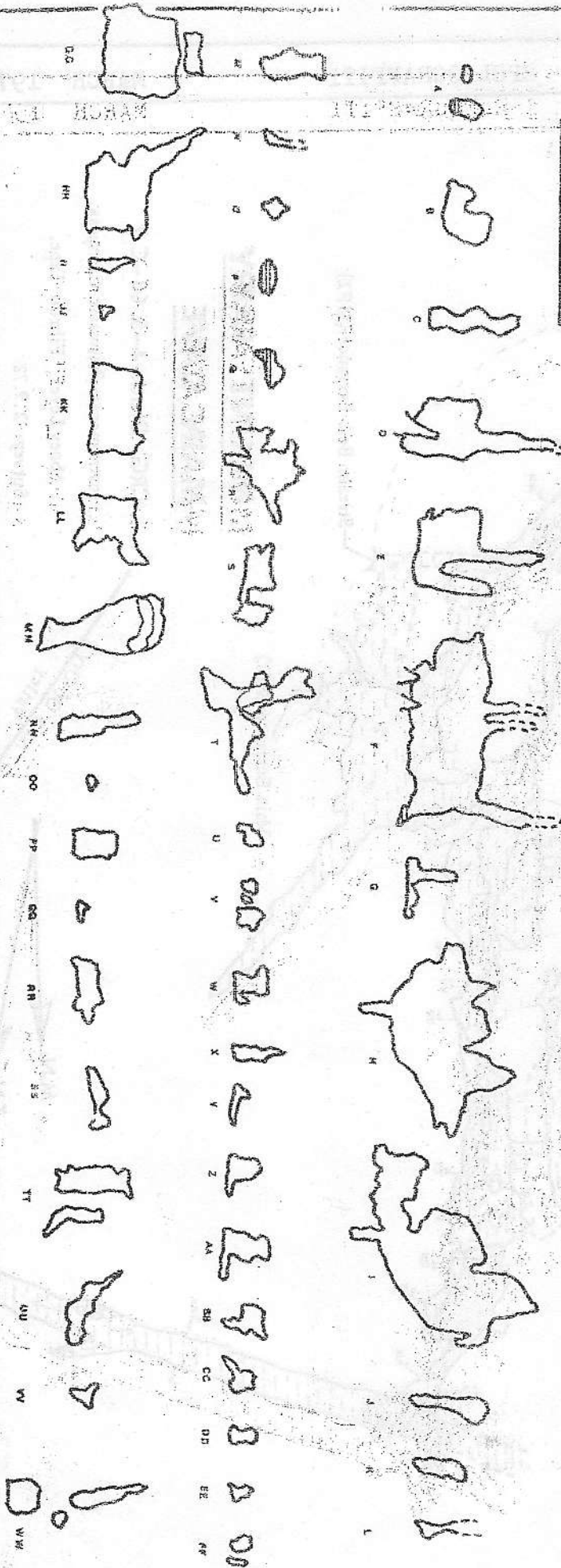


PARTIAL LONG SECTION  
PROJECTED ONTO 181° (TRUE)

MOUNT FAIRY  
MAIN CAVE



CROSS SECTIONS



TRIP REPORTS SECTIONBLACK LIST

Trip reports have not been done for the following trips.

JOHN FURLONGER - Mt. Fairy, mid 1973.  
JOHN FURLONGER - Nullarbor, Aug. 1973.  
JOHN FURLONGER - Yarrangobilly, Nov. 1973. (YRG trip)  
JOHN FURLONGER - Yarrangobilly. Xmas-New Year. (YRG trip)  
DAVID HUGHES - Wyanbene (Fresher trip), 9 March.  
JOHN FURLONGER - Mt. Fairy, 16 March.

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YARRANGOBILLY, (YRG Trip).

2 - 3rd. February.

Party: John Brush, Marjorie Coggan, John Furlonger, Henry Shannon, Mike Owen, Ken Mitchell, Bruce Radke and friend, Alan Harding and three friends.

This was to have been a weekend of solid digging in East Deep Creek, however rain dampened our enthusiasm about this idea, and after some debate it was decided to dig in North Glory.

The rangers' permission was sought, subsequently granted and soon after the dig commenced, in a meandering stream passage branching from the Smugglers section.

Henry Shannon and John Furlonger went down to the river to collect some fluorescein bugs while the rest did the dig. The numbers may seem large, but were just about right for the long bucket brigade required. Digging was slow in the sticky clay but some progress was made - about 3m. before calling it quits.

Sunday arrived and was fairly dry, thus East Deep Creek was entered. There was a fair amount of water in the stream passage and hence the trip in was rather 'uncomfortable'.

Once at the end digging began in earnest. Unlike Glory, there was no mud to speak of, but cobbles are not the best thing to dig either. Once again about 3 - 4m. of passage was uncovered before giving up for the day. The passage is about 2m. wide and dropping fairly steeply. No water is present on the surface but is thought to be seeping through the gravel below.

John Brush.

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YARRANGOBILLY, (YRG Trip).

16 - 17th. February.

Party: John Brush, Marjorie Coggan, John Furlonger, Bruce Radke, Leon - , & Geoff - .

On the Saturday a traverse was done through the Smugglers section, the recently done dig and then out to the entrance. At the same time at the same time John Furlonger, Bruce Radke et al went down to the river to retrieve some fluorescein bugs from the Y44 area.

On the Saturday John Furlonger and Bruce Radke walked down the river from Yans Crossing to Y46; to retrieve further bugs, then they went up to Eaglenest where Bob Nichol and Andy Spate were surveying.

Meanwhile, a survey (CRG 6) was done of a small hole opposite Y13 (on west side and about same level above river). A surface traverse between Y13 and Y78, Y79 was then done, the aim being to more accurately determine the position of these two new small caves.

John Brush.

WEE JASPER5th. February

Party: Mike Owen, John Brush, Don Finch, Barry Weas, Doone Wyborn.

A Tuesday evening trip into Punchbowl Cave for a spot of light caving after a hard day's work with the BMR. The entrance pitch was rigged and subsequently climbed, everyone being down by 10.00 p.m. The NUCC standard round route was taken: pitch chamber, ballroom, far chamber, strawberry shortcut, Loxin chamber, slippery dip, laundry chute, far chamber, ballroom, pitch chamber.

Nothing of any real interest happened, though some difficulty was experienced by some in scaling some of the small climbs which abound.

The surface was reached about 1.00a.m. and we then headed back to camp some 7 miles away.

John Brush.

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WEE JASPER (Fresher Trip)2nd. March.

Party: John Brush, Marjorie Coggan, Phil & Charmein Shepherd, David Loveband, David Calaby, Alan Harding, Mark Ricketts, Laura Beacroft, Anne Tassie, John Eiseman, Garth Keppie, Jack Claff.

This was the annual Wee Jasper fresher trip. This year the trip was somewhat different than normal in that instead of the usual thousands (hundreds?) on the trip, there were only 15 - probably the result of not having a vigorous advertising campaign during O-Week. However, this worked to our advantage (as huge numbers are a bastard to handle, to say nothing of the time spent in belaying on ladders), and in theory it should have been a quick trip.

In practice however, 60.000 scouts can cause any theory to burst at the bottlenecks. The bottleneck was of course the entrance pitch - a group was met coming out as our three groups (in theory staggered - in practice not) were on the way in. In the cave the usual loop was followed by group 1 (J.B., M.C. etc.) but the other two groups were more adventurous (or was it lost) and kept appearing from all around, first behind, then in front, and then both. However, all people eventually returned to the pitch chamber, and from there (eventually) to the surface. (Two groups were met entering the cave as we were leaving, and it took over two hours to get everyone either up or down.)

John Brush.

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YARRANGOBILLY (YRG TRIP)9 - 10th. March.

Party: John Brush, Marj Coggan, (NUCC), Joe Jennings, Bob Nicholl, Andy Spate and others from CSS, John Taylor and others from Bega.

The basic aim of this trip was to put a weir and gauging station in Y46. The basic problem was thought to be the carrying downhill of the gear (pipes, sheet metal, cement, tools, recorder, generator, power drill and saw, cement water proofer, etc.). However this was accomplished with only minor delays, the main problems were with the building of the weir itself - the diversion pipes were not large enough to take the full flow of the stream, and the sandbag coffer dam leaked.

On the Sunday Joe Jennings, Andy Spate, and Bob Nicoll and Jim



were left to the weir building, while Marj and I intended to survey Y80. However the CSS miner's dial would not fit Joe's tripod, thus killing that idea. We then decided to fully explore it.

A hole in the floor mentioned by the original "discoverers" (M. Bell and N. Call) dropped 6 metres to a small chamber with no obvious leads - a boot print was found down the bottom of this previously thought unentered hole. A similar (but much tighter) hole nearby dropped a similar distance into a similar chamber, but lacked the foot print. An aven at the inner end of the cave was climbed and was about 12 metres higher than the floor level of the main chamber.

Returning to Y46 we found the weir progressing but slowly and as they were in need of no assistance we left for the cars, noticing a fire on the west side of the gorge on the way back - apparently the remains of a 70,000 acre ~~control~~ burn the previous week.

John Brush.

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MT FAIRY

13th March

Party: John Brush, Marj Coggan & John Eiseman

Being a holiday, it was thought the best way to spend Canberra Day was to go to Wyanbene. This was to have been a photographic trip but a slight rise in the water level at the Shoalhaven ford forced us to go elsewhere.

Sometime later we arrived at Mt Fairy and headed for the main cave. This had water flowing in it and there was evidence of recent flooding in the outer passages. After doing a 'round trip' through the cave we returned to the main entrance and then reentered the cave through the nearby mine adit. It appears wombats have taken over control of the mine adit and nearby passages.

John Brush

MARBLE ARCH

23rd. March

Party: Marj Coggan, John Brush, Sally Rigden, Brian Cheetham, David Hughes, Sue Clark, Jenny Clark, Sue Norrie, Michael Pryjma, Mike Smith, Aldo Penbrook, John Masala.

After our normal latish start, we arrived out at the ford to find the river quite high. Passengers were made to walk and the drivers took the cars across without mishap, except that Renaults, unlike Morris's, don't float on fluid. After a quick drain we headed on to Marble Arch.

While some ate an early lunch others rigged abseil ropes and a ladder into the gorge and the first of the freshers went over the edge. Only one or two had descended when the rain began and continued for the rest of the day. The abseilers and climbers persevered for a while in the rain then everyone headed down into the gorge and entered the main cave. After a lot of crawling those who entered saw most of what there was to see then made their way back up to the top of the gorge. By this time it was getting late so we packed up and left, hoping to cross the ford before it got too dark. We then headed back to Canberra for a bar-beque at the Clark residence.

Marjorie Coggan.

